

1. Real Party in Interest

No change.

2. Related Appeals and Interferences

No change.

3. Status of Claims

The appellants acknowledge that claims 36 and 37 have been allowed.

4. Status of Amendments After Final

The appellants acknowledge that the amendment filed with the Appellants' Brief on June 13, 2005, has been entered and considered. As a result, the appellants have submitted herewith a new amended listing of the claims in the claims appendix noted below.

5. Summary of Claimed Subject Matter

No change.

6. Grounds of Rejection to be Reviewed on Appeal

No change.

7. Claims Appendix

The appellants acknowledge that the claims now include the amendments entered and considered with the after final amendment filed with the Appellants' Brief on June 13, 2005. The listing of the claims provided in that paper are current to date.

8. Evidence Relied Upon

No change.

9. Grounds of Rejection

No change.

10. Remarks in Reply to Examiner's Answer

The appellants hereby reply to the examiner's answer at page 10, paragraph 10 entitled "Response to Argument".

Firstly, the examiner maintains the rejection of claim 9 for not being limited to only three laser beam reflecting surfaces. The appellants continue to consider this rejection improper. Claim 9 recites beam characteristics that result from reflecting a laser beam off a planar reflecting surface and at least two additional beam reflecting surfaces. The result is that the beam is inverted and directed along an axis co-linear with the original first axis of the beam. The claim is thus limited to an arrangement of reflecting surfaces incorporating a planar reflecting surface and at least two additional beam reflecting surfaces to achieve the claimed beam characteristics result. Any arrangement of reflecting surfaces that cannot achieve the claimed result would not fall within the scope of the claim. Any arrangement of reflecting surfaces that includes, at a minimum, a planar reflecting surface and at least two additional beam reflecting surfaces that would produce the recited beam parameters is intended to fall within the scope of claim 9. Whether one were able to concoct a device using 4, 5, 6, or 50 reflecting surfaces to achieve the claimed result should not matter. The claim is believed to be clear and definite as written.

In paragraph 10(b), the examiner's answer notes MPEP §2163(I) in stating that the appellants' specification must describe the claimed invention in sufficient detail to show possession of the claimed invention. The appellants, by describing one example of an apparatus that achieves the claimed beam characteristics and nozzle forming function, has met this requirement and has shown a clear possession of the claimed invention. Contrary to the assertion in the examiner's answer, the appellants have not stated anywhere in their specification that the desired and claimed beam inversion and other beam characteristics can occur only when reflecting the laser off three reflecting surfaces. Instead, the appellants have met their 35 U.S.C. §112 requirements by disclosing the best mode known at the time of the invention in the form of one example. Nothing more is required.

The examiner's answer also raises MPEP §2144.04(6)(B) as support for the statement that mere duplication of parts has no patentable significance. The statement is a red herring.

The appellants are not attempting to claim a fourth dummy reflecting surface in order to get around a prior art device specifically reciting three reflecting surfaces. Instead, the appellants are seeking the broadest possible coverage for an invention that utilizes reflecting surfaces to achieve a desired laser beam outcome. The appellants' argument stands and the rejection of claims 9, 34, and 35 based on §112 should be withdrawn.

In reply to the examiner's answer at page 11, paragraph 10(c), it is noted that the examiner's answer states that Shei and Turner are analogous to the nozzle forming apparatus and method of the claimed invention. The examiner's answer relies on the fact that uniformity of illumination is important in the formation of ink jet nozzles and the fact that Shei teaches a process and apparatus that produces uniform energy distribution in the laser beam. The examiner's answer, however, continues to ignore the fact that the process and apparatus in Shei, if used in any manner to produce a hole in its intended target substrate (a person's eye), would produce a catastrophically undesirable result. One of ordinary skill in the art of forming ink jet nozzles would not look to the non-analogous Shei teachings to modify the teachings in Nishiwaki, regardless of whether each desires uniform laser beam energy.

With respect to Turner, the examiner's answer relies on the fact that the reference teaches improving versatility in the process of allowing drilling of preformed surfaces in which the substrate underside is not accessible. Forming nozzle orifices in an orifice plate of an ink jet printhead presents no such problem. The orifice plate can be oriented in any manner desired by the manufacturer and can be accessed from either side. Versatility and surface inaccessibility are not the problems at issue in the claimed invention or in Nishiwaki. The reasoning presented in the examiner's answer simply does not support a conclusion that Turner is an analogous reference. Both Shei and Turner are non-analogous to the appellants' invention of forming accurate and precise ink jet ejection nozzles.

In reply to the examiner's answer at page 12, paragraph 10(d), it is submitted that the examiner's answer misconstrues the appellants' argument. To be clear, the instant claims recite a laser beam that is delivered along an axis and reconfigured and then redirected co-linear with that original axis. Turner teaches a laser beam that uses "trepanning" to form a hole. Trepanning is a process of taking a laser beam spaced from an axis and rotating that beam in a circle around that axis to form a hole. The resulting beam in Turner does not exit the device along the axis of rotation of the device or the hole to be formed. Instead, the beam is spaced from the axis along which the hole is formed and moved or directed in a circle around that axis. Combining the teachings of Turner with either Nishiwaki or both Shei and Nishiwaki would destroy the teachings of Turner which requires the trepanning process to form its tapered holes.

All of the rejections based on a combination of Turner with either Nishiwaki or both Nishiwaki and Shei destroy the express teachings of Turner. Each of these rejections should be withdrawn.

In reply to the examiner's answer at page 12, paragraph 10(e), it is submitted that the examiner's answer raises MPEP §2144.04 for two purposes. First, the examiner's answer states that whether a single or multiple holes are produced has no patentable significance. This statement is irrelevant. Secondly, the answer states that whether the holes are being produced slowly or fast has no patentable significance. This statement is also irrelevant. Patentable significance is not at issue when considering the combined teachings of the prior art. Nishiwaki specifically teaches a process and method to quickly and accurately produce multiple nozzles in a nozzle plate simultaneously. Both Turner and Shei teach a specific device arranged to emit a single laser beam directed at a substrate surface. It is irreparably significant that the teachings of Nishiwaki would be destroyed if combined with the teachings of Shei and/or Turner. If Nishiwaki expressly teaches a device that necessarily produces

multiple laser beams that contact a substrate simultaneously, a combination of reference teachings can not destroy this express desired result of Nishiwaki.

The examiner's answer also specifically identifies a location for the optical devices of Shei or Turner as "downstream" of the fly eye lens in the Nishiwaki apparatus and method. Neither the previous actions nor the examiner's answer puts forth a motivation or suggestion found within any prior art teaching that would have lead one of ordinary skill in the art to specifically position either of the Shei or Turner devices at any particular location in Nishiwaki. Any rejection based on the combination of Nishiwaki, Turner, and/or Shei would destroy the reference teachings of Nishiwaki. The output of Nishiwaki is multiple beams forming multiple nozzles simultaneously. The output of both Turner and Shei is a single beam.

Finally, in reply to the examiner's answer at page 13, paragraph 10(f), the appellants refer to the teachings of Turner and the trepanning process above. Again, the Turner reference is mischaracterized in the examiner's answer. A careful reading of Turner and a close look at FIG. 4 of the reference show that the laser beam 18, as it comes into the apparatus, is offset from the axis of rotation 17 of the apparatus a distance to the right. The incoming laser beam is not co-linear with the axis 17. The outgoing laser beam as it leaves the apparatus is positioned always offset from and adjacent the axis 17. The outgoing beam is also not co-linear with the axis 17. The laser beam is instead moved along a circular path around the axis 17 to form the opening in the substrate 9. The laser beam is not positioned directly co-linear with the axis 17. Further, the incoming laser beam and outgoing laser beam in Turner are not co-linear.

The appellants reiterate the previous arguments that any combination of Turner with the teachings of Shei and/or Nishiwaki would destroy the express teachings of Turner.

The appellants continue to believe that all of the rejections of the pending claims should be withdrawn and the application be allowed to issue.

Respectfully submitted,

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